Claims

1. A method for the conversion of organic waste, wherein the waste is introduced into a cell in which a pair of electrodes is present, which pair of electrodes comprises at least one anode and at least one cathode, the anode and cathode being separated by a porous, electronically non-conductive, non-ion-selective partition wall, while an oxidizer is introduced into the portion of the cell around the cathode, and wherein a potential difference is formed across said pair of electrodes such that at the anode CO_2 is produced and that electricity is produced.

2. A method according to claim 1, wherein the waste is introduced into a bipolar biofuel cell in which two or more pairs of electrodes are located, each pair of electrodes comprising at least one anode and at least one cathode, the anode and cathode of each pair of electrodes being interconnected by an electronically conductive and non-ionic-conductive wall, while the porous, electronically non-conductive, non-ion-selective partition wall is of compartmented design such that at least two types of channels are formed, the open space of the first type of channel being in electrically conductive contact with the cathode and the open space of the second type of channel being in electrically conductive contact with the anode.

3. A method according to claim 2, wherein also partitions are present, preferably from the same material as the porous, electronically non-conductive, non-ion-selective partition wall, which partitions, are placed at least substantially transverse to said electrodes.

4. A method according to any one of the preceding claims, wherein the organic waste comprises animal manure, waste water, waste water purification sludge, kitchen and garden waste (KGW), roadside grass, residual flows from industrial processes (such as molasses, whey, draff) and/or dredgings.

5. A method according to any one of the preceding claims, wherein said oxidizer is oxygen.

6. A method according to claim 5, wherein the oxygen is introduced in the form of air and/or dissolved in water.

7. A method according to any one of the preceding claims, wherein said separator is a porous, electronically non-conductive, preferably non-ion-selective partition wall, preferably comprising non-woven plastic fibers or glass fibers.

8. A method according to any one of the preceding claims, wherein for creating the anaerobic and aerobic zones, no separator is used.

9. A method according to any one of the preceding claims, wherein one or more electrodes are three-dimensional electrodes.

10. A method according to any one of the preceding claims, wherein one or more electrodes comprise carbon, preferably graphite.

11. A method according to any one of the preceding claims, wherein one or more electrodes comprise active carbon.

12. A method according to any one of the preceding claims, wherein one or more electrodes are provided with a catalyst, preferably a precious metal catalyst.

13. A method according to any one of the preceding claims, wherein one or more electrodes are provided with humic acid and/or anthraquinone-disulfonic acid.

14. A method according to any one of the preceding claims, wherein the cell is used as biosensor for the determination and quantification of biological activity.

15. A method according to any one of the preceding claims, which is carried out at a temperature of 30 – 100 °C, preferably 40 – 60 °C.

16. A method according to any one of the preceding claims, wherein Fe-ions are introduced in the space around the cathode.

17. A method according to any one of the preceding claims, wherein the waste is supplied in the space around the anode where it is partially decomposed under anaerobic conditions, whereby an effluent comprising organic decomposition products is formed, which effluent is then led to the space around the cathode where it is further decomposed under aerobic conditions.

18. A device for processing organic waste, comprising a cell which is divided by a fiberglass mat into at least two compartments, while at least two of the compartments are each provided with at least one electrode, which electrodes are arranged such that they can form an electrical circuit, further provided with means for discharging or storing electricity and provided with supply means for an oxidizer, preferably in the form of an air pump.

19. A device according to claim 16, wherein at least one electrode is a three-dimensional electrode, preferably a felt electrode.

20. A device according to any one of claims 16 or 17, wherein at least one electrode comprises carbon, preferably graphite.

21. A kit for processing organic waste, comprising a pair of electrodes comprising at least two three-dimensional electrodes, preferably graphite felt electrodes, and a fiberglass mat.

22. A kit for processing organic waste, comprising a pair of electrodes comprising at least two three-dimensional electrodes, preferably graphite felt electrodes, and a partition wall of polyurethane foam.